

ROP Self-Assessment and Independent Evaluations

The objectives and details of the Reactor Oversight Process (ROP) Self-Assessment Program are contained in Inspection Manual Chapter (IMC) 0307. The staff of the U.S. Nuclear Regulatory Commission (NRC) revised IMC 0307 on December 12, 2003, to improve the efficiency and effectiveness of the ROP Self-Assessment Program by providing greater detail related to documenting the results of the annual inspection procedures reviews, and to modify some metrics to better align with the operating plan metrics and other program commitments. Attachment 3 to this paper provides the 2003 annual self-assessment of ROP performance metrics.

In addition to the ROP Self-Assessment Program, several independent evaluations have been performed since the inception of the ROP to analyze its effectiveness and recommend improvements. Most recently, the Office of Management and Budget (OMB), the Office of the Inspector General (OIG), the Advisory Committee on Reactor Safeguards (ACRS), the Davis-Besse Lessons Learned Task Force (DBLLTF), and the Significance Determination Process (SDP) Task Group have performed ROP evaluations. In general, these evaluations have provided favorable results, but have also suggested potential areas of improvement for the staff to consider, as follows.

Office of Management and Budget Program Assessment Rating Tool (PART) Results

The OMB completed its review of the Reactor Inspection and Performance Assessment program (i.e., the ROP) using the Program Assessment Rating Tool (PART). The PART is a program evaluation tool, which was developed and implemented by OMB to evaluate the management of all Federal programs in a consistent and objective manner. The Reactor Inspection and Performance Assessment program received a score of 89 percent, which corresponds to an "Effective" rating for the management of the program, the highest rating possible under the PART system (reference Accession No. ML031500382 in the NRC's Agencywide Documents Access and Management System (ADAMS)). Of the 234 Federal programs evaluated by OMB last year, only 6 percent received an "Effective" rating.

Davis-Besse Lessons Learned Task Force (DBLLTF) Recommendation Status

Soon after the discovery of the degraded reactor pressure vessel (RPV) head at the Davis-Besse Nuclear Power Station in March 2002, the NRC's Executive Director for Operations (EDO) directed the staff to establish a task force to independently evaluate the agency's regulatory processes related to ensuring the integrity of the RPV heads in the Nation's nuclear power plants. The resultant DBLLTF was chartered to identify and recommend areas for improvement that may be applicable to either the NRC or the nuclear industry. The DBLLTF's report, issued on September 30, 2002, contained more than 50 recommendations, many of which were associated with the ROP.

As a result of the DBLLTF's recommendations, the staff has made several changes to the ROP and many more are underway. The staff made these changes to enhance the NRC's ability to detect declining plant performance, including the specific issues that have been identified at the Davis-Besse plant. The changes completed to date include modifying the inspection program to help identify negative equipment performance trends, enhancing inspector training, and

better tracking and managing resident inspector staffing. Other ROP changes are ongoing or under evaluation.

The DBLLTF's recommendations resulted in several changes to the Baseline Inspection Program. First, the staff made significant changes to Inspection Procedure (IP) 71152, "Identification and Resolution of Problems." Specifically, these changes include establishing a semiannual trend review, performed by the resident inspectors, which will focus on declining equipment performance trends. Second, the staff added a requirement to require mandatory screening of all items in the licensee's corrective action program. Third, the staff issued a temporary instruction to review licensees' inspection activities related to the RPV head and vessel head penetration nozzles. In addition, the staff increased inspection focus on outage activities and modifications deferred by the licensee. Actions not yet completed include a review of previously canceled inspection procedures and better integration of operating experience into the inspection program.

The staff also developed a new Web-based "read-and-sign" training process to provide a vehicle for more timely dissemination of information to the inspection staff. During calendar year (CY) 2003, the staff implemented the first three read-and-sign training modules. One module concerned the effects of boric acid corrosion, another was associated with the changes made to IP 71152, and the third dealt with the importance of maintaining a questioning attitude toward safety (using the Columbia Space Shuttle accident as a vehicle for reinforcing this message). A review of inspector refresher training requirements is ongoing, as is development of a new training course on root cause evaluation.

The staff also enhanced the program management aspects of the ROP. For example, the staff revised IMC 0350, "Oversight of Operating Reactor Facilities in an Extended Shutdown as a Result of Significant Performance Problems," to provide more structured guidance for managing NRC resources devoted to plants in extended shutdown as a result of performance issues. The staff is also developing enhanced metrics to track resident inspector staffing at each of the operating reactor sites.

Further details on specific DBLLTF recommendations are included in the relevant program area discussions in Attachment 1 and the status of previous issues in Attachment 2. The status of the DBLLTF recommendations is also included in the Director's Quarterly Status Report to ensure continued management attention (reference ADAMS Accession No. ML040140030).

Office of the Inspector General Audit Activity

The OIG completed an audit of the SDP in 2002, as documented in OIG-02-A-15, "Review of NRC's Significance Determination Process," dated August 21, 2002. In that report, the OIG recommended various refinements to help ensure the successful implementation of the SDP process. The audit yielded 11 specific recommendations, which the staff incorporated into the SDP Improvement Plan for tracking purposes. The staff has since resolved all recommendations as to expectation, tracking, and completion dates, with five recommendations fully completed. Several of the OIG recommendations are further discussed in the SDP program area discussion in Attachment 1 and the status of previous issues in Attachment 2.

The OIG is currently performing an audit of the ROP Baseline Inspection Program. In addition to replying directly to the OIG regarding any identified recommendations or concerns, the staff expects to address the resultant OIG recommendations in the next annual ROP self-assessment.

Advisory Committee on Reactor Safeguards

During CY 2003, the staff continued to interact with the ACRS on matters related to the ROP, such as the Industry Trends Program, the MSPI pilot program, the Construction Inspection Program, and other ROP initiatives. The staff last briefed the ACRS regarding their concerns with the ROP on March 6, 2003. Following that briefing, the ACRS forwarded a letter to the Commission, dated March 13, 2003, concluding that the staff and ACRS still have certain disagreements. The staff responded to that letter on April 29, 2003, agreeing that the ACRS concerns warranted further consideration and would continue to be evaluated as part of the ongoing self-assessment process (reference ADAMS Accession No. ML030980658). The staff noted that the specific issues presented in the ACRS letter of March 13, 2003, will serve as the basis for further discussion with the ACRS and potential revisions to the ROP. Several of the ACRS concerns are discussed in the program area discussions in Attachment 1 and the status of previous issues in Attachment 2. At this time, the staff has not planned any additional meetings or correspondence with ACRS.

Regulatory Impact Summary

On December 20, 1991, the Commission directed the staff to develop a process for obtaining continual feedback from licensees and to report the feedback to the Commission each year. In response, the staff implemented the regulatory impact process in October 1992. This feedback process requires the regional division directors and their deputies to solicit informal feedback from their licensee counterparts during routine visits to reactor sites. Regional managers then evaluate this feedback to identify concerns requiring prompt action and then forwards the related feedback to the Office of Nuclear Reactor Regulation (NRR). NRR then performs an integrated evaluation of regional feedback and reports the results to the Commission.

Although NRR reported previous results to the Commission by separate correspondence, the staff plans to consolidate future reporting of regulatory impact results into this Commission paper to gain staff efficiency. The detailed results of the most recent regulatory impact analysis were sent to the Commission in SECY-03-0221, "Annual Report on Feedback from Licensees Regarding the Impact of NRC's Activities on Licensees' Operations," on December 22, 2003 (reference ADAMS Accession No. ML033430115).

Other Internal Evaluations

In 2002, the EDO directed the staff to establish a task group to perform an independent and objective review of the SDP. This review was prompted, in part, by issues described in a differing professional opinion (DPO) panel response, dated June 28, 2002, and the OIG audit report, dated August 21, 2002. The overall objective of the SDP Task Group was to review the issues raised in both the DPO panel response and the OIG audit report and provide observations, conclusions, and recommendations to address the underlying concerns, including

whether the current reactor safety Phase 2 SDP approach should be continued, modified, or replaced. The SDP Task Group concluded that the SDP, including the Phase 2 process, had generally succeeded in meeting the ROP objectives of providing a more objective, scrutable, and risk-informed process. The Task Group further provided 30 recommendations, which were generally aimed at improving the risk-informed Phase 2 evaluations using the risk-informed inspection notebooks. A notable recommendation was to develop pre-solved Phase 2 tables, which would eliminate the routine use of the risk-informed Phase 2 notebooks. To date, the staff has incorporated 16 Task Group recommendations into the SDP process. The remaining recommendations are tracked using the SDP Improvement Plan.

In addition, late in CY 2001, the staff formed the Efficiency Focus Group (EFG) to identify and develop possible resource efficiencies in the ROP. After evaluating a number of ideas, the focus group selected two suggestions for near-term implementation. Specifically, those recommendations are to (1) explore less resource-intensive alternatives to the annual performance assessment meeting for plants in the licensee response column of the Action Matrix, and (2) review the baseline inspection procedures to identify areas where consolidation is possible. The staff has addressed the first suggestion and is actively pursuing the second suggestion as discussed further in Attachment 6.